

NOR-19-7620

5206075



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D2500-1-190
Job Sheet 196592



Part No: D2500-1-190

Job Qty: 80 pcs

DAS
61
9-89

Part Name: Ext'n -I' Beam Tube 4"



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 6/17/19

Job Tracking No:

Created By: Marie Lajeunesse

Due Date: 7/5/19

Description:

Type: Stock

Note: DWG D2500 REV H IPP: G 02.09.05 Added DSK 066 KJ/RF IPP: H 07.07.06 rev G dwg EC IPP Rev: I as per
dwg revH DD 10.02.23 verified byEC

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Purchasing	80 pcs	7/5/19	7/5/19	0.00	0.00	Purchasing - 1		At 19/08/15
							Purchasing - 2		
							Purchasing - 3		
110	Packaging 2-1 - Receive - B4B	80 pcs	7/5/19	7/5/19	0.00	0.00	Packaging 2 - 1 - B4B		
							Packaging 2 - 2 - B4B		
							Packaging 2 - 3 - B4B		
							Packaging 2 - 5 - B4B		
							Packaging 2 - 4 - B4B		
							Packaging 2 - 6 - B4B		
							Packaging 2 - 7 - B4B		
							Packaging 2 - 8 - B4B		
							Packaging 2 - 9 - B4B		
							Packaging 2 - 10 - B4B		
							Packaging 2 - 11 - B4B		
							Packaging 2 - 12 - B4B		
							Packaging 2 - 13 - B4B		
							Packaging 2 - 14 - B4B		
							Packaging 2 - 15 - B4B		
							Packaging 2 - 16 - B4B		
							Packaging 2 - 17 - B4B		
							Packaging 2 - 18 - B4B		
							Packaging 2 - 19 - B4B		
							Packaging 2 - 20 - B4B		
							Packaging 2 - 21 - B4B		
							Packaging 2 - 22 - B4B		
							Packaging 2 - 23 - B4B		
							Packaging 2 - 24 - B4B		
							Packaging 2 - 25 - B4B		
							Packaging 2 - 26 - B4B		
							Packaging 2 - 27 - B4B		



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S206075



Part: D2500-1-190

Job No: 196592

Serial No/Batch: S206075

Revision: H

Inspector:

Exp Date:

Instructions: Various STC's

Date: 08/15/19

					Packaging 2 - 28 - B4B	At 19/08/15
					Packaging 2 - 29 - B4B	
					Packaging 2 - 30 - B4B	
					Packaging 2 - 31 - B4B	
					Packaging 2 - 32 - B4B	
					Packaging 2 - 33 - B4B	
					Packaging 2 - 34 - B4B	
					Packaging 2 - 35 - B4B	
					Packaging 2 - 36 - B4B	
120	QC 6	80 pcs	7/5/19	0.00 0.00	QC 6 - 9	
					QC 6 - 68	DAS
					QC 6 - 61	61
					QC 6 - 40	9-88
130	Packaging 3-1 - Stock - B4B	80 pcs	7/5/19	0.00 0.00	Packaging 3 - 1 - B4B	
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
140	QC 21 - SA	80 pcs	7/5/19	0.00 0.00	QC 21 - SA - 21	DAS SEP 04 2019
					QC 21 - SA - 70	21
					QC 21 - SA - 53	9-88
Part Op 100 - (Purchasing) Issue P/O: _____ a) Extrude as per Dwg D2500 b) Material: 6061-T6 (QQ-A-200/8) c) Descriptions: Minimum yield tensile strength = 35 ksi d) Minimum ultimate tensile strength = 38 ksi e) Minimum elongation = 8% f) Order at 190" long g) Bon L Canada Inc. tool # 897105 h) To be packed per DSK 066 i) Pull test to ASTM standard B221 required. j) Material certification is required 110 - (Receive & Inspect for Damage & Mat'l Certs) Ensure material certification is attached 120 - (QC6- All purchased or subcontracted products) Check Pull test per Dwg D2500 for compliance page attached. Check hardness with Webster tester						

6/17/2019

[Dart Hawkesbury] Job Sheet - Lajeunesse, Marie

130 - (Identify as per dwg & Stock Location: _____) LOCATION : LG002
140 - (QC21- Final Inspection - Work Order Release)

HALL

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2500-1-190P	Extrusion Round 4" 205	80 pcs (1 ea)	100-Purchasing	5206055

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Purchasing	D2500-1-190P	80	0	0

Part Specifications

Specifications could not be found.

Plex 6/17/19 10:11 AM Dart.lajeunesse.marie

SPECIFICATION CONTROL DRAWING

D2500-1-XXX EXTRUSION & D2500-3-XXX EXTRUSION

NOTES:

1) MATERIAL: 6061-T6 ALUMINUM PER QQ-A-200/8 OR AMS-QQ-A-200/8 OR ASTM B221

MINIMUM TENSILE YIELD STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
MINIMUM ELONGATION = 8%

A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE ABOVE MINIMUM MECHANICAL PROPERTIES

2) FINISH: N/A

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: IDENTIFY WITH DART B/N USING FINE POINT PERMANENT INK MARKER

7) WEIGHT: D2500-1 = 0.143 lb/in, D2500-3 = 0.086 lb/in

8) FOR D2500-1 PART NUMBER IS D2500-1-XXX WHERE XXX IS CUT LENGTH (EX. D2500-1-190 IS 190" LONG). D2500-1 EXTRUSION MANUFACTURED FROM:

- A) BON L DIE # 897105 -> PREFERRED
- B) CARADON MIDEAST DIE # PAH-28030
- C) CARADON MTL DIE # MH-18868

9) FOR D2500-3, PART NUMBER IS D2500-3-XXX WHERE XXX IS CUT LENGTH IN INCHES (EX. D2500-3-100 IS 100" LONG). D2500-3 EXTRUSION MANUFACTURED FROM:

- A) CARADON INDALEX DIE # MS-18867

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 1965012 MJS

190617

RELEASED
2010-02-02
MJS

H	REDRAW & REFORMAT DWG: CORRECT BON L DIE # TYP0 (ZN B8-1), ADD AMS & ASTM MAT'L OPTION (ZN D8-1), TOLERANCES NOW PER CARADON DWG (SHT 2)	GP	09.07.16
G	ADD DIE NUMBERS & 'DIMS IN INCHES' NOTES	PH	07.04.17
F	CHANGE MAT. TO 6061-T6	DS	97.09.29
E	CHANGE MATERIAL TEMPER	DS	96.10.24
D	ADD MATERIAL PROPERTIES	DS	96.10.07
C	ADD D2500-3 WEB	BW	96.04.26
B	CHANGE INTERNAL WEB	DS	96.03.24
A	NEW ISSUE	DS	96.03.19
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.07.16		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO.		REV. H	
D2500		SHEET 1 OF 2	
TITLE		SCALE	
EXTRUSION		NTS	
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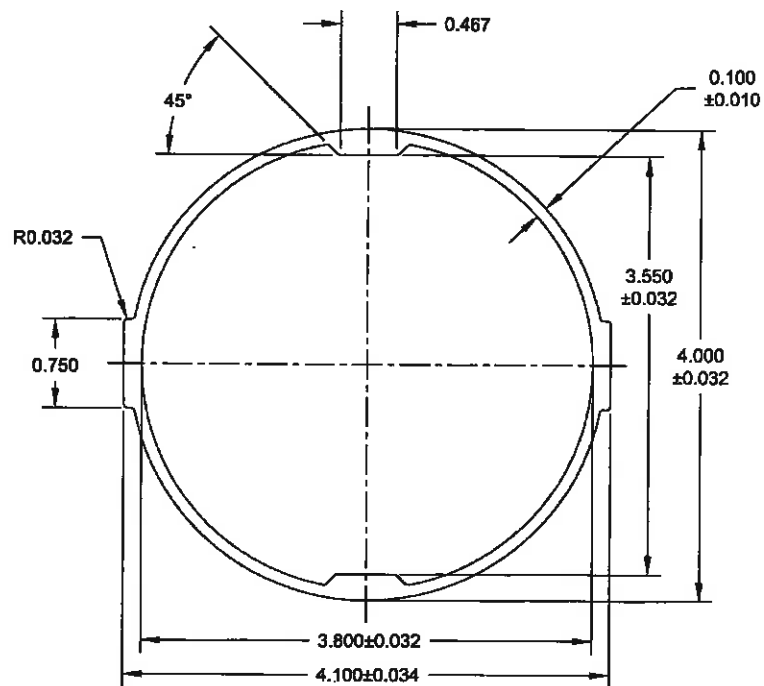
8 7 6 5 4 3 2 1

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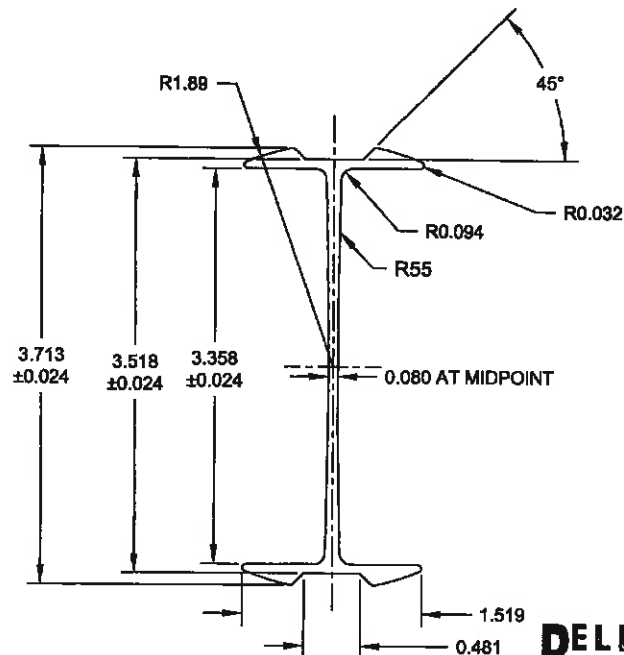
C

B

A



D2500-1



D2500-3

RELEASED
2010-02-02
JHP

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D2500	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		EXTRUSION	NTS
DATE	09.07.16	COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043779



Supplier: SIG001-VC
Signature Aluminum Canada Inc.
C/O/ T10322C
PO Box 4488, STN A
TORONTO
ON
M5W 4H1 Canada
Phone: 905-427-6550
Fax: 905-427-2246

PO No: POHB043779

PO Date: 6/18/19

Due Date: 7/26/19

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
Phone: 613-623-5200 Ext: 242
Fax: 613-632-1053
clavoie@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

EMAILED
JUN 19 2019

Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	196592	D2500-1-190P		Extrusion Round 4" 205 : EXTRUDE AS PER DWG D2500 REV. H DIE #897105-2 EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS MUST BE WELL PACKAGE, IF NOT IT WILL BE REFUSE	Firmed	-	7/26/19	80 pcs	0 pcs	80 pcs	\$76.3598/pcs	\$6,108.78
											Grand Total: \$6,108.78	

Handwritten signature



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER
POHB043779



Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Procurement Quality Clauses

A005 RIGHT OF ENTRY

A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

Plex 6/18/19 2:46 PM dart.lavoie.chantal



1850 Clements Road, Pickering Ontario, Canada L1W 3R8

Phone: (866) 587-5780 Fax: (905) 427-2207

Visit us at www.signaturealuminum.com

INVOICING AND COMPANY LOCATION

SIGNATURE ALUMINUM CANADA
1850 CLEMENTS ROAD
PICKERING ON L1W 3R8

PACKING LIST.

PACKING LIST DATE / DATE DU BODESEAU

07-29-19

PACKING LIST NUMBER / N° DE BODESEAU

043875

SALES ORDER NUMBER / N° DE COM

136836

ACCT# 46024

SHIP TO / EXPÉDIÉ À

DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
CANADA

PHONE: 613-632-5200

SOLD TO / VENDUE À

DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
CANADA

PHONE: 613-632-5200

TERMS / FREIGHT

PP

REFER TO
THESE NUMBERS ON
ALL CORRESPONDANCEREFEREZ-VOUS A CES
NUMEROUS POUR TOUTE
CORRESPONDANCE

CUSTOMER ID / ID DU CLIENT 46024		ORDER DATE / DE LA COM 06/19/19		CUSTOMER PO NUMBER / CLIENT PO Nombre POHB043779		BILL OF LADING NUMBER / NO. DE CONNAISSEMENT 043875		LOCATION PIC		TRAILER NUMBER / REMORQUE Nombre 13-02		SALESMAN / VENDEUR 042		CREDIT REP / REP DU CRÉDIT		SALES REP / REP. DES VENTES G.ATTENBOROU							
ITEM NO. / NUMÉRO		ORIGINAL ORDER QUANTITY / Quantité d'ordre ORIGINAL		UNIT / UNITÉ		PREVIOUS SHIPPED QUANTITY / PRÉCÉDENT Quantité livrée		MFG. PART NUMBER / MFG. PARTIE NUMÉRO		ALLOY & TEMPER / ALLIAGE & TEMPER		FINISH DESCRIPTION / DESCRIPTION DE FINITION		NBR OF PKGS / NBR DE PKGS		GROSS LBS / LIVRES BRUT		NET QUANTITY / QUANTITÉ NETTE		UNIT / UNITÉ		QUANTITY DUE / Quantité en raison	
001		2,207		LB				DAA-897105-2		6061 T6				4		2,434		2,346		LB			
		1,001		KG				D2500-1-190P		190.0000 IN						1,104		1,064		KG			
Y		80		PC						Cut (+): 0.1180		Min: -10 % Max: 10 %						85		PC			
										Cut (-): 0.0000													



CERTIFICATE OF COMPLIANCE

SIGNATURE ALUMINUM CANADA

1850 CLEMENTS RD
PICKERING, ON L1W 3R8

Cert Date	Cert No	Sales Order	Page
07/29/2019	5541321	136836	1
Cust PO	B/L No	Lot	Date
POHB043779	043875	922647	07/29/19

Sold To		Ship To	
46024 DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 CANADA		46024 DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 CANADA	
Item No	Part No	Item Description	Cust Part
001	DAA-897105-2	190" Mill 6061 T6	D2500-1-190P
Gross Weight	2,434 LBS		
Net Qty	2,346 LBS	85 PCS	4 PKGS
Specification		Die Desc	
AMS-QQ-A-200/8 & ASTM B221-08			

Mechanical Tests:

<u>Tensile</u>	<u>Yield</u>			
<u>MPA / KSI</u>	<u>MPA / KSI</u>	<u>% Elongation</u>	<u>Conductivity</u>	<u>HRE</u>
295.9 / 42.9	260.7 / 37.8	10.0	N/A	90

Chemical Analysis:

<u>Si</u>	<u>Fe</u>	<u>Cu</u>	<u>Mn</u>	<u>Mg</u>	<u>Cr</u>	<u>Zn</u>	<u>Ti</u>	<u>V</u>	<u>Zr</u>
0.61	0.29	0.22	0.05	0.86	0.07	0.04	0.02	0.01	0.00

This Material is Made in Canada

This Material is RoHS Compliant

This will certify that the material described herein has been inspected and tested in accordance with Signature Aluminum Canada's standard sampling and testing procedures or in accordance with the requirements of any specification forming a part of the material description to the extent indicated herein. Data of chemical composition for the material and test results from samples representative of the material are set forth above hereof or in any attachments hereto. This information shows that the material meets the applicable requirements. Inspection and test records are maintained on file. This certificate shall be deemed apart of and subject to the terms and conditions of warranty set forth on the reverse side of our order acknowledgement form. No other warranties are applicable.

S. Gooder
Quality Manager
Signature Aluminum Canada Inc

ISO 9001/TS16949 Registered Company

Visit us at www.signaturealum.com

Rev A

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: D2500-1-190
 DATE: 19/08/15

PO / BATCH NO.: PO4B043779/5206075

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 85x
 QUANTITY INSPECTED: 85x
 QUANTITY REJECTED: 8x

THICKNESS ORDERED: 0.160"
 THICKNESS RECEIVED: 0.160"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	☒	☐	
CORRECT FINISH	☒	☐	
CORROSION	☐	☒	
CORRECT GRAIN DIRECTION	☒	☐	
CORRECT MATERIAL PER M-DRAWING	☒	☐	AMS-QQ-A-200/B
CORRECT THICKNESS	☒	☐	
PHOTO REQUIRED	☐	☐	
CORRECT REF # TO LINK CERT	☒	☐	PO4B043779
CORRECT MATERIAL IDENTIFICATION	☒	☐	
CORRECT M# ON THE MATERIAL	☒	☐	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	☐	☐	
DOES THIS REQUIRE AN EXTRUSION REPORT	☐	☐	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 61</u> DATE: <u>AUG 22 2019</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

HL

Oct 28/19



NCR No. 9-7620

Route update only

Job: 106592		DISPOSITION		DEPARTMENT/PROCESS			
Part No. D2500-1-190		Rework ☐ Scrap ☒ Use-as-is ☐		Skid-tube ☐ Machining ☐ Large Fab ☐	Cross tube ☐ Small Fab ☐ Finishing ☐	Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐	Engineering ☐ Water Jet ☐ Supplier ☒ Quality ☐
Date: AUG 16 2019		Sequence #: QC-18		QTY Affected: 8 of 85 77		MRB (QSI042)	
Description Work Order Deviation				Disposition			
Received 5 dented tubes along with 3 warped tubes. Out of tolerance.				Scrap			
				Completed By DAS 61 9-89 DAS 81 9-89 Lead hand / Supervisor DAS 47 9-89 19-09-89 QC / QA Coordinator DAS 68 9-89 AUG 28 2019			
Root Cause		FAULT CATEGORY					
Operator ☐ Manufacturing Process ☒ Equip/Tooling ☐ Handling/Presentation ☒ Material ☒ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☒ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread					
		Other/Details:					